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STRATEGY RESEARCH PROJECT

# THE FUTURE OF POWER PROJECTION

BY

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# USAWC STRATEGY RESEARCH PROJECT

# THE FUTURE OF POWER PROJECTION

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#### **ABSTRACT**

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Power projection, the ability to project and sustain our military power anywhere in the world with little or no notice, is one of the main strengths that have made our Army the greatest in the world. It is the cornerstone of our military preeminence. We have more air and sea lift than any other country in the world. The United States is a power projection nation. Credible rapid power projection is deterrence in itself. Today's national security environment and the emerging joint concept of rapid decisive operations demands a transformation of U.S. power projection capabilities. We will never have sufficient lift to move today's Army to meet tomorrow's crisis, therefore, service roles and missions must be relooked to include the role of the IBCT. There is no one solution. The future of power projection is still evolving, but it most certainly will be even more joint oriented. The impact of Army transformation is just now starting to be incorporated into power projection. The CSA has defined the end for us, a brigade in 96 hours, division in 120 hours, and five divisions in 30 days. It remains to be seen if all the Army's deployment objectives are achievable. The long pole in the tent is a division in 5 days. The means to achieving that is through aggressively implementing the Army transformation plan which the recent attack on America has given impetus to. The purpose of this paper is to examine America's current policy and future of power projection and its relevance to Army transformation.

# TABLE OF CONTENTS

THE FUTURE OF POWER PROJECTIONi	İ
ABSTRACTiii	i
THE FUTURE OF POWER PROJECTION1	
POWER PROJECTION1	
CURRENT STRATEGY1	
ALTERNATIVE STRATEGY2	
MOBILITY REQUIREMENTS STUDY - 20053	
ARMY STRATEGIC RESPONSIVENESS QUICK LOOK STUDY (#50)4	
STRATEGIC MOBILITY TRIAD	•
AIRLIFT	
SEALIFT8	
PREPOSITIONING9	
ARMY TRANSFORMATION10	
THE FUTURE IN LIGHT OF ARMY TRANSFORMATION12	
CONCLUSIONS16	
ENDNOTES17	
BIBLIOGRAPHY21	

vi

# THE FUTURE OF POWER PROJECTION

#### POWER PROJECTION

Power projection, the ability to project and sustain our military power anywhere in the world with little or no notice, is one of the main strengths that have made our Army the greatest in the world. We have more airlift and sealift than any other country. Most armies can deploy and fight within or contiguous to their borders, some with much effort, can project and sustain their military power to distant corners of the world, e.g. England in the Falklands War, but only America has the capability of rapidly projecting and sustaining large military formations anywhere in the world. It is this capability that makes us the most formidable and deployable Army in the world. Force projection is the military element of power projection. It is a central element of our national military strategy. This paper will only discuss the military element of power projection, therefore the terms power and force projection are used interchangeably.

Over the last eleven years, since the end of the cold war, the U.S. Army has transitioned from a strategy of forward deployment to one of force projection that today has evolved into a strategy of both power projection and forward presence. The future of force projection is still evolving. The impact of Army transformation is just now starting to be incorporated into force projection. The purpose of this paper is to examine America's current policy and the future of power projection and its relevance to Army transformation.

# **CURRENT STRATEGY**

Current U.S. military strategy rests on the twin concepts of forward presence and power projection to facilitate accomplishment of military objectives. This is articulated in Joint Vision 2020, the 2001 Quadrennial Defense Review (QDR), and the 2000 National Security Strategy. JV 2020 states, ". . . the United States must maintain its overseas presence forces and the ability to rapidly project power worldwide in order to achieve full spectrum dominance." The 2001 QDR calls for maintaining regionally tailored forces forward stationed and deployed to assure our allies, counter coercion, and deter aggression. It further states that we will strengthen our forward deterrent posture. Forward deployed forces allow us to identify emerging security problems and facilitate a swift response if necessary. Maintaining an overseas presence enhances our understanding of the military developments within various regions of the world, reassures our allies, and promotes regional stability. Every regional CINC has a theater engagement plan with emphasis on military to military contacts, foreign military

sales, and host nation involvement. Our forward and rotationally deployed forces are the embodiment of our continuous commitment to our overseas allies and act as our first line of deterrence.<sup>3</sup> Complementing our forward presence is power projection. Power projection is the ability of the U.S. to project all necessary elements of national power (military, economic, diplomatic, and informational) at the place and time necessary to achieve national security objectives. Credible power projection requires the capability to deploy rapidly military forces sufficiently strong to prosecute successfully and terminate conflicts on terms favorable to the U.S. and its allies.<sup>4</sup>

The 1997 National Military Strategy, which is still our current military strategy, states; "The Armed Forces' core competence is the ability to apply decisive military power to deter or defeat aggression and achieve our national security objectives." It defines power projection as the ability to rapidly and effectively deploy and sustain U.S. military power in and from multiple, dispersed locations until favorable conflict resolution. Power projection complements forward presence and strives for unconstrained global reach. "Being able to project power means being able to act even when we have no permanent presence or infrastructure in a region." Power Projection offers numerous challenges, not the least of which is to "Git thar firstest with the mostest."

# **ALTERNATIVE STRATEGY**

The only viable alternative to our current strategy of power projection is extensive forward deployment. This worked well in the bi-polar world of the cold war. In the current geopolitical world of possible overlapping major theater wars and smaller scale contingencies and with the rise of asymmetrical warfare, extensive forward deployment would be too high a price to bear. We are not willing to maintain an army large enough to be everywhere at once. Even then some power projection capability would be required to react to the unknown "wild card" that is out there somewhere in the future. We can never know with certainty where or when the next conflict will occur or who our next adversary will be. The world today is volatile, uncertain, complex, and ambiguous (VUCA). The future uncertain. The strategic environment makes it entirely unclear where, or when, or for what strategic purposes U.S. ground forces will find themselves committed to battle in the coming decades. Who a year ago, would of thought that in the Spring of 2002 the U.S. Army would be involved in a ground war in Afghanistan? It is not a question of if, just where, when and how.

"The past is prologue" but it is not necessarily predictive. Before we examine the future of force projection we need to look at two recent and relevant studies, Mobility Requirements Study – 2005 and Army Strategic Responsiveness Quick Look Study (#50).

# **MOBILITY REQUIREMENTS STUDY - 2005**

The initial strategic mobility requirement comes from the 1995 Mobility Requirements Study Bottom-Up Review (MRS-BURU). This is what our current doctrine is based on. It calls for the lead Brigade on the ground by C+4, the lead Division by C+12, two heavy Divisions by C+30, and the full Corps (five Divisions and a COSCOM) by C+75. General Shinseki, the Army Chief of Staff, in his October 1999 Army Vision further refined the goal by committing to develop the capability to put a combat capable brigade anywhere in the world in 96 hours, a division in 120 hours and five divisions on the ground in theater in 30 days.

The success of our power projection strategy depends not just on the speed with which combat power can be assembled, but also how quickly it can be deployed on the battlefield. Even the Army's prepositoned stocks afloat (APS-3) equipment takes 15 days (C+15) to unload, stage and close on the tactical assembly area ready to fight under current timelines. All large-scale deployments consist of three distinct and interrelated segments: fort to port, port to port, and port to foxhole. In the past, we have over focused on the first two segments to the detriment of the third and final deployment segment. Equal emphasis must be placed on improving the capability of theater LOCs to receive and process arriving forces and equipment. Historically the CONUS base has always overwhelmed the theater's ports of debarkation. This was true in the Spanish American War as well as Vietnam and the Persian Gulf War. While through-put was always considered, it was not viewed as an end to end process. The focus was on getting there with little thought given to through-put, in particular material handling equipment (MHE) and intra-theater airlift requirements. This oversight has been corrected in the most recent study on strategic mobility requirements, Mobility Requirements Study – 2005 (MRS-2005).

MRS-2005 is the most comprehensive mobility study undertaken by the Department of Defense to date. It is based on the two major theater war scenario with anticipated threats, mobility requirements and equipment inventories programmed for 2005. MRS-2005 examines the combined impact of airlift, sealift, and prepositioned stocks on inter-theater and intra-theater deployment from CONUS power projection platforms to tactical assembly areas. Bottom line is that while surge sealift and pre-positioning are "largely satisfactory" there is insufficient airlift to meet the 1995 MRS-BURU requirement let alone the CSA's requirement, which is future

focused. MRS-BURU established an airlift requirement of 49.7 million ton miles per day (MTM/D). MRS-2005 established a minimum requirement of 51.1 MTM/D with 54.5 MTM/D of airlift capability as the minimum moderate risk capability required to support the National Military Strategy to support two nearly simultaneous major theater wars. The additional 3.4 MTM/D takes into account intra- theater airlift requirements and other airlift contingency requirements not previously identified. Admittedly, power projection is more than just ton-miles per day, and it is a poor metric for measuring force projection, but it does give us a common denominator for comparison purposes and reminds us that logistics is more hard science than art. Furthermore, MRS-2005 airlift capability estimates are based on an overly optimistic C5 mission capable (MC) rate of 65-80% while in fact the MC rate for our C5 fleet has only averaged 60% over the last 5 years. In the interval of the inte

# ARMY STRATEGIC RESPONSIVENESS QUICK LOOK STUDY (#50)

This document is the primer for the Army in assessing its current strategic response posture and the changes needed to achieve the Army's vision deployment goals as the Army progresses through Transformation. The study's conclusions and recommendations are the Army's road map to achieve the deployment goals. As we look into the future, further analysis and additional studies must be explored to substantiate this study's recommendations.

-BG Charles W. Fletcher, JR

In support of the Army Transformation process, BG Fletcher, Director, Transportation and Troop Support, Office of the Deputy Chief of Staff for Logistics (DCSLOG) asked the Logistics Management Institute (LMI) to conduct a quick-look assessment of the Army's capability to attain its Vision deployment goals. The stated objective of the study was, "to review the various studies that have preceded it and the initial findings of those still under way, summarize the consensus conclusions, and—where the conclusions differ–attempt to articulate the reasons for the differences." 17

The study focuses on the Army Vision's stated deployment goals and the changes needed for the Army to achieve them as a full-spectrum force in the FY07 to FY17 timeframe when the Interim Brigade Combat Team (IBCT) and the Objective Division are planned to be fully mission capable. It is a "study of studies" that focuses on the end to end process in particular force projection, distribution and command and control.<sup>18</sup>

The study looked at advanced lift technologies such as Ultra Large Airlifters (ULAs) and Shallow Draft High Speed Sealift (SDHSS) that are likely to be available in the 2007 to 2017

time frame. The study examined the feasibility of two ULAs, the German Cargo Lifter and the British Skycat. These are huge (853 – 1007 ft long) modern day dirigibles. The German Cargo Lifter is capable of carrying 176 STON at a speed of 52 knots and the British Skycat is capable of carrying 715 STON at 100 knots. Through scenario modeling the ULAs were found to improve force closure times and provided additional landing area options reducing APOD congestion. While very beneficial at intra-theater distances the ULAs showed little benefit at strategic distances when compared to conventional fixed wing airlift.<sup>19</sup>

SDHSS such as the Jervis Bay which is in use today significantly increases the number of available SPODs. With a draft of less than 12 ft and speeds of over 40 knots these ships are capable of carrying 600-1000 STONs 1,000-1,200 nautical miles. Because of their limited range the SDHSS is more useful at intra-theater distances than at strategic distances. Global forward positioning of ULAs and SDHSS would help to overcome their disadvantages and significantly improve our global reach and force closure times.<sup>20</sup>

The use of Intermediate Staging Bases (ISBs) provides flexibility in employment and theater logistics support. The benefits derived from integrating ISB capabilities into contingency planning will have a positive effect on meeting Army Vision deployment goals and the Transformation objective of a reduced logistics footprint in the combat zone. Three discrete joint functions can be performed at an ISB; en route basing, cargo transfer, and sustainment/support. Establishing permanent ISBs or modifying existing bases to support forces in various regions of the world may result in force structure savings and more rapid deployments. Joint ISBs offer the opportunity to assign Service responsibility and normalize Service support forces, reducing the demand on early lift and maximizing integration of the joint force in a contingency. <sup>21</sup>

Study #50 is an analytical "study of studies" that resulted in seven major findings, sixteen conclusions, and nineteen recommendations.<sup>22</sup> The bottom line is 96 hour brigade deployment is possible, 120 hour division deployment is still to be resolved. Five ODIVs in 30 days is possible with the procurement of additional C-17s and inter- and intra-theater lif assets. Current estimate is 180 hours to deploy an Objective Force Division anywhere in the world. This represents significant progress toward the Army goal in comparison to today's capability.<sup>23</sup>

Additional lessons learned as identified in the study are:

- Multiple Studies = Consistent Results
- No Single Solution
- Technology is an Enabler, Not a Solution
- Size and Weight Matter

- Prepositioning is Vital
- Additional Airlift is Needed
- MOG at Destination Must Be = to or > MOG at Departure Points
- Infrastructure Improvements Necessary
- Shallow Draft High Speed Sealift Significantly Increases Deployment Options
- Information Systems/Process Broken
- Measure of Deployment Success (Metrics) Unclear
- No Deployment R&D Lead
- Joint Synchronization Required.

# In summary:

DoD and the Army have made significant progress over the past 10 years toward increasing strategic responsiveness. The Army Transformation and its applicable Vision Goals are paramount to enhancing future Army strategic responsiveness across the full spectrum of operations. Achieving these goals will require a major shift in Army force structure size and composition, additional and advanced airlift and sealift assets, infrastructure improvements, doctrinal changes, a new equipment prepositioning strategy, and an improvement in information technology systems and processes. Implementation of (the study's) recommendations should serve to strengthen the Army's capability to deploy anywhere in the world more rapidly than ever before.

#### STRATEGIC MOBILITY TRIAD

The strategic mobility triad of airlift, sealift and prepositioning is essential for meeting force projection timelines. Only 5 percent of material sent to a theater arrives via airlift, while the remaining 95 percent arrives via sealift. Strategic airlift and sealift often face multiple demands and cannot immediately deliver large amounts of heavy equipment to meet short notice crises. Prepositioning plays a critical role in rapidly equipping forces deploying to major theater wars (MTWs) and smaller scale contingencies (SSCs). The purposes of Army prepositioned stocks are to reduce the initial amount of strategic lift required to support a CONUS based force projection Army; and to sustain the warfight until sea lines of communication with CONUS are established.<sup>25</sup> Each leg of the triad is important and plays an essential role in force projection. The legs are interlocked requiring the right mix of each to project the right force rapidly with the right equipment. The strategic mobility triad is the means to the Army's strategy of force projection.

#### **AIRLIFT**

There will never be enough strategic airlift to move what we want to move when we want to move it. We will never have sufficient lift to move today's Army to meet tomorrow's crisis. Even if we had sufficient airlift to move an entire division we are still limited by the capacity of the receiving airfields. We can either obtain more airlift or reduce the quantity of what needs to be moved to include reducing its size (weight and cube). The answer to resolving the Airlift shortage lies somewhere in between.

As of February 1, 2002 there were 81 C-17 Globemaster III's in the U.S. Airforce inventory to include six with the Air National Guard. The Air Force is currently authorized 180 C-17s with 134 currently funded in the POM.<sup>26</sup> This includes the last funded buy of 14 C-17s for special operations use. Boeing plans to deliver 15 C-17s to the U.S. Air Force in 2002. U.S. TRANSCOM's chief emphasis is the need for more C-17 aircraft. Buoyed by its extremely successful track record to date and the positive publicity the C-17 has received in supporting Ameica's war on terrorism, TRANSCOM leadership is confident Congress will give the green light to increase the fleet of C-17 transports from the current 180 aircraft to 220.<sup>27</sup> This is still short of the 240 C-17s recommended by the Army Strategic Responsiveness Quick Look Study (#50).<sup>28</sup>

There are currently 126 C-5 Galaxy's in the U.S. Air Force inventory, 50 C-5Bs manufactured in the mid to late 80's and 76 C-5As manufactured in the 70's. Based on a recent study showing 80% of the C-5 airframe service life remaining, AMC began a program to modernize the C-5 fleet beginning in 1998 with the C-5 Avionics Modernization Program. A test program of three C-5B aircraft is on going to determine the feasibility and effectiveness of continuing modernization with a comprehensive re-engining and reliability improvement program (RERP). If this test program results in the hoped for 10 percent improvement in mission capable rates then the C5Bs at least will be kept flying well into the 21st Century. <sup>29</sup> If the RERP test fails then the C5 fleet will most likely be replaced by increasing the procurement of C-17s. The C-5 is the weak horse in Air Mobility Command's stable. C-5 mission capable (MC) rates have been notoriously poor with an average MC rate of just 60% over the last five years. Even the 2001 QDR made note of this.<sup>30</sup> The effect of poor MC rate and the modernization program is that on any given day fewer than 60 of the 126 aircraft in the inventory are mission capable.<sup>31</sup>

There are currently 170 C-141B Starlifters still in the Air Force inventory. The 74 C-141Bs still on active duty are in the process of being transferred to the Air National Guard and Air Force Reserve NLT FY 2003. This will allow Air Mobility Command to maintain capability

while the C-17 fleet grows. The C-141 fleet will be phased out completely by FY 2006 as each aircraft reaches its lifespan of 45,000 flying hours.<sup>32</sup> Despite its age the fleet still maintains an MC rate of approximately 80%. From Vietnam to Operation Desert Storm to countless humanitarian missions, the United States has literally flown the wings off this venerable airlifter. The C-141 is a good example of how unpredictable op tempo affects the life of our airlifters thus impacting our strategic lift capability.

The Air Force tanker fleet consists of 545 aging KC-135 Stratotankers (based on the Boeing 707 airframe), and 59 KC-10A Extenders (based on the DC-10 airframe), first deployed 1981, and capable of carrying 170,000 lbs.<sup>33</sup> Only 37 of the KC-10As are considered in computing Strategic airlift cargo capability diverting them from their primary mission of aerial refueling.<sup>34</sup> The Air Force is currently looking at options for the next generation of tankers (KC-XX).

The Air Force has over 500 C-130 aircraft of various configurations, but they are capable of intra-theater airlift only. The C-130 was first introduced in 1952. With the recent introduction of the J model this airframe has gone as far as it can go. An advanced tactical transport with short or vertical take off and landing (STOL/VTOL) capability is needed to replace it.

#### **SEALIFT**

Historically, 95 percent of all U.S. military cargo needed for war or contingency operations moves by sea.<sup>35</sup> While there is room for modest improvement in CONUS infrastructure and containerization, our overall sealift capacity as stated in MRS-05 is "largely satisfactory." Commercial seaports are adequate to support the movement of military equipment and supplies with the minor exception of some Gulf Coast ports that lack sufficient berth space and staging areas.<sup>37</sup> Significant improvements have been made in our sealift capacity since Desert Storm. Sealift is no longer the problem it once was.

It is estimated that over three-fourths of sustainment cargo would be shipped via commercial shipping using the Voluntary Intermodal Sealift Agreement (VISA). Fifty-seven of the 69 ships projected to be available in the ammunition and VISA fleets are containerships. This places increased emphasis on containerization which studies have found can cut delivery time by two to three weeks. Approximately 18 percent of Army unit equipment can be containerized and moved in a manner that maintains unit integrity.<sup>38</sup>

Military Sealift Command (MSC) is and will remain a very big player in any military or contingency scenario.

#### **PREPOSITIONING**

All services preposition ammunition, equipment and supplies forward either afloat or ashore. Prepositioning is a critical leg in the strategic mobility triad that enhances reaction time and reduces lift requirements. The concept of force projection and prepositioning coupled with strategic airlift, to "marry" forces with equipment, greatly reduces force closure time in response to critical events overseas. Prepositioned assets are tailored to regional requirements and send a clear signal of U.S. commitment. Prepositioning is a force deterrent option that shows U.S. commitment and resolve and is less obtrusive than forward deployment. Prepositioning at sea is completely non-obtrusive and gives the President a tremendous amount of strategic agility. The focus of this study is on Army And Marine prepositioning as it makes up the bulk of our prepositioned stocks and their programs are the most robust. Army Prepositioned Stocks (APS) are part of the solution to achieve Army Vision objectives. It remains a key enabler in achieving the transformation deployment timeline objectives of a brigade task force in 96 hours, one Division in 120 hours and five divisions in 30 days. APS remains the pivotal power projection force required to meet DPG and CINC OPLAN requirements within established timelines.<sup>39</sup>

The Army Prepositioned Stocks (APS) Program originated after the Persian Gulf War, when the National Military Strategy changed from forward deployment to force projection. The APS-3 (Army Prepositioned Afloat, or APA) was the initial element of this program. APA called for prepositioning aboard ships a 2 x 2 heavy brigade with support (two armored and two mechanized battalions, plus support units, theater-opening combat support and combat service support units, and sustainment stocks for an area of operations) that could be operational by 15 days after a deployment operation begins (C+15). Since its inception in the early 1990's, APS has expanded to six additional brigades with support prepositioned at land-based sites in Southwest Asia, Northeast Asia, and Central Europe. By July 2002, the Army plans to have an additional brigade with support prepositioned afloat, thus creating a total of eight prepositioned brigade sets.<sup>40</sup>

Army Prepositioned Stocks (APS) consists of equipment and supplies in eight preconfigured brigade and unit sets, plus sustainment and operational project stocks stored in strategic locations world wide ashore and afloat for issue to deploying Army units in support of CINC and Army component command war plans. APS contains more than a Corps equivalent of equipment; eight brigade sets, a Division, Corps, and Theater base with port opening package, sustainment and operational project stocks (bridging, aircraft matting, etc). A brigade set typically consists of 88 tanks, 54 Bradley Fighting Vehicles, 331 other tracked vehicles and

849 wheeled vehicles; over 15,000 items.<sup>41</sup> Two of the eight brigade sets along with the Division, Corps, and Theater base with port opening package are afloat on 15 ships which are normally berthed at Diego Garcia and Guam/Saipan. Force closure time is 15 days (C+15). Seven of these ships are new construction Large, Medium Speed, Roll-on, Roll-off ships (LMSRs) that carry an armored brigade and theater opening CS/CSS sets. The LMSRs are literally as large as an aircraft carrier with over 380,000 square feet of environmentally controlled storage, 35 foot draft and 24 knot cruising speed which is slightly faster than the MPS ships.<sup>42</sup> Unfortunately their large size and deep draft limits them to deep water ports only. The ships are administratively loaded with complete unit sets and the unit sets are cross loaded among the ships to minimize the loss of any one ship. Each ship is a complete autonomous package. Equipment maintenance and rotation is done in Charleston, South Carolina.

Maritime Prepositioning Forces are naval power projection assets that support the employment of Naval expeditionary forces. The Maritime Prepositioning Ship (MPS) program was established in 1979 to forward deploy U.S. Marine Corps vehicles, equipment, supplies and ammunition in ships through out the world in support of Marine Air-Ground Task Forces (MAGTFs) assigned to contingency operations. In the mid-1980's, 13 roll-on/roll-off (RO/RO) container ships were chartered by the Military Sealift Command (MSC) to conduct this mission. Since then the MPS program has grown to 16 ships divided into three MPS squadrons (MPSRONs) on station in the Mediterranean, the Indian Ocean, and the Western Pacific. Each MPSRON can support up to 17,300 MAGTF personnel for up to 30 days during initial operations.<sup>43</sup> Force closure time is 17 days (C+17). The MAGTF is a notional force of between 14,000 and 17,000 Marines and sailors. It is sized to accommodate a Marine Expeditionary Brigade's equipment which consists primarily of wheeled vehicles and only two companies worth of tanks.<sup>44</sup> The equipment afloat is not necessarily configured to unit sets as in the Army program. Rather the units are tailored to fit in on the available equipment. This is one of the major differences between the Army and Marine prepositioning programs. The ships, except for one LMSR, range in RO/RO capacity from 121,000 to 152,000 square feet and displace 44,000 to 51,000 long tons with drafts of 32-36 feet. Maximum cruising speed is about 18 knots. 45 Equipment maintenance and rotation is done at Blount Island near Jacksonville, Florida.

# **ARMY TRANSFORMATION**

To adjust the condition of the Army to better meet the requirements of the next century, we articulate this vision: Soldiers on point for the nation transforming

this, the most respected army in the world, into a strategically responsive force that is dominant across the full spectrum of operations. With that overarching goal to frame us, the Army will undergo a major transformation . . .

—Army Chief of Staff GEN Eric K. Shinsek October 1999, in his speech launching Army Transformation

Army transformation is based on the Army vision as articulated above by Army Chief of Staff GEN Edward K. Shinseki in his 12 October 1999 speech. For over half a century, the U.S. Army had been organized and equipped to meet America's security needs for the Cold War. Since the end of the Cold War America's security needs have changed, and the Army must reorganize, modernize, and reequip itself to better meet those needs while remaining engaged in a wide variety of on going and future missions. The Army of the Cold War has increasingly found itself irrelevant in the post Cold War world. GEN Shinseki articulated a vision designed to posture the Army to better meet the demands of the 21<sup>st</sup> Century. The objective statement in the Army Vision sets the goal for Army Transformation calling on the Army to create "strategic dominance across the entire spectrum of operations" with seven broad goals. They are to make the Army more responsive, deployable, agile, versatile, lethal, survivable, and sustainable. Everything stems from these goals to include the deployment capability requirement to put a combat-capable brigade anywhere in the world within 96 hours, a full division in 120 hours and five divisions on the ground within 30 days. Examining the Army's strategic responsiveness posture is a key element in the Transformation process

The Army's Transformation Campaign Plan (TCP) published in April 2001 translates the Vision from concept to reality. The TCP is a mechanism for integrating and synchronizing all elements of the Army Vision. The Vision represents the goals for the Army, while the Transformation and the accompanying TCP is the vehicle for becoming more strategically responsive and dominant across the full spectrum of military operations. It is the road map for achieving the Army Vision and plays a prominent role in shaping future force projection requirements.<sup>47</sup>

Other services are also undergoing major changes, though some, like the Navy, are more evolutional than transformational. The Marines see themselves as the nation's premier expeditionary, "Total Force in Readiness." As the "Joint Force Commander's Leatherman Tool" that provides strategic agility, operational reach, and tactical flexibility all in one tailorable package. They perceive a robust sea based forceable entry capability as one of their most important capabilities now and in the future.<sup>48</sup> The Commandant of the Marine Corps warns

against attempts by each service to claim that it was the "expeditionary force" of choice for the nation. "There is no way that the entire armed forces of the United states can fit into the tip of the spear." For Army transformation to be successful it must be a joint undertaking.

Transformation crosses all component, service, and CINC lines. A transformed Army will have far greater reliance in the future on remote fire support, precision engagement, and strategic mobility provided by other services. No service fights alone nor will they fight independently of each other in the future. Interoperability is a mandate for the joint Force of 2020. JV 2020 states the overall goal of transformation is the creation of a force that is dominant across the full spectrum of military operations – persuasive in peace, decisive in war, preeminent in any form of conflict. But, some say transformation is being held back by service parochialism and lack of jointness. Some even say that JV 2020 discourages jointness by preserving each services distinct roles and interests. That transformation cannot take place without a shift in service roles. Organizational culture, not terrorism might be our most serious asymmetrical threat.

#### THE FUTURE IN LIGHT OF ARMY TRANSFORMATION

The global war on terrorism reinforces the need for a transformed Army that is more strategically responsive, deployable, lethal, agile, versatile, survivable, and sustainable than current forces.

--- Army Posture Statement 2002

The Army's new operations manual, FM 3-0 describes the purpose and four characteristics of force projection operations:

The objective of force projection is to conduct decisive operations so rapidly that the enemy is defeated before he can effectively confront U.S. forces. That objective requires efficient and effective projection of Army forces. Taken as a whole. effective and efficient force projection exhibits four characteristics: precision, synchronization, speed, and relevant information.<sup>53</sup>

It outlines two different types of entry operations; unopposed and forcible entry. Unopposed entry may be either assisted or unassisted. Assisted entry forces are tailored to deploy efficiently and transition to follow-on operations quickly with maximum host nation support and cooperation such as in Operation Desert Shield. Unassisted entry forces deploy balanced combinations of combat, combat support, and combat service support forces to secure an adequate lodgment immediately upon arrival such as in Operation Uphold Democracy in Haiti. A Forcible entry is an offensive operation for seizing and holding a military lodgment in the face of armed opposition. It capitalizes on strategic and operational mobility to surprise the enemy, seize a lodgment, and gain the initiative. Once the assault forces seize the lodgment, it

normally defends while additional combat power and sustainment is rapidly deployed via air and sea, although it may also simultaneously seize the initiative as the U.S. did in Panama during Operation Just Cause. There are three types of forcible entry operations: air assault, parachute assault, and amphibious assault. The Army specializes in the former two while the Marines specialize in the later with some air assault capabilities.<sup>54</sup> These capabilities are considered by each service to be complementary and not redundant or competitive. FM 3-0 places strong emphasis on the jointness of force projection operations, but at the same time states: "The Army maintains formidable forcible entry capabilities."

The future will most certainly be joint oriented. Current literature focuses on joint operations based on a capability based force particularly for initial entry operations. Rapid decisive operations (RDO) is the current buzz word for the future. RDO is an example of a future joint operational concept that can serve to change the way we fight. RDO is the catalyst and integrating concept for new approaches and different/futuristic thinking about what is necessary to conduct force projection operations today and in the future. "RDO seeks to provide an understanding of how the United States can rapidly project sufficient national power across global distances to decisively achieve national objectives against capable regional powers."

The name of the concept itself, rapid decisive operations, reveals a vision of how the U.S. would like to conduct military operations in the future. The flow of operations does not follow the traditional sequential pattern of pre-hostilities, lodgment, decisive combat and stabilization, follow through, and post hostilities and redeployment. Rather, an RDO campaign is characterized by immediate, continuous, and overwhelming operations with the goal of shocking and paralyzing the enemy thus limiting his most dangerous options.<sup>57</sup> Attack the enemy's center of gravity directly or simultaneously rather than secure a lodgment and then attack.

To accomplish this, joint power projection must apply continuous concentric pressure to the enemy. This creates the need for force projection capabilities to be both rapid and seamless. While it is often important to respond quickly, it is more important that forces be introduced rapidly enough and in sufficient numbers to achieve and sustain momentum. We must be able to project rapidly decisive combat power, forces light enough to be projected quickly on a global basis and lethal enough to dominate upon arrival. Strategic speed and lethality can no longer exist as separate variables.<sup>58</sup> Combat effectiveness equals firepower plus deployability and sustainability. In the future, the U.S. is not likely to enjoy an administrative move into theater. Forces will begin moving before or during crisis, not knowing

when or where hostilities will begin. The Army of the future must be capable of beginning offensive maneuver a continent away and enter fighting to achieve an early decisive decision. The closing forces will be competing for transport with logistics destined for leading forces already operating.

The flow of forces will have to share space and priorities with the flow of sustaining supplies. Focused, precision theater distribution is critical. The amount of unit equipment and sustainment stocks and the rate at which they flow into theater define the lift requirement. Strict discipline of our lift requirements must be maintained with every piece and person contributing to combat effectiveness. Size and weight does matter. Eighty percent of the lift required for a heavy division is for support. Most of our outsized equipment is in our support units. The space and weight necessary to deploy and support our forces must be minimized. We can no longer afford to ship one million tons of excess supplies to the theater or have 20,000 soldiers still waiting for their equipment when the attack kicks off as we did in Operation Desert Storm. Combat power and in particular our logistic power must be maximized to obtaining more punch per ton and cubic meter. We must gain a better understanding of systems and linkages, particularly the linkage between operations and logistics. Each can enhance or inhibit the other. Use of multiple seaports and airfields to avoid congestion and minimize the impact of enemy missiles and weapons of mass destruction will be essential. Pro-active theater engagement plans and prepositioning can help mitigate anti-access and area denial strategies.

To deliver rapidly coherent unit sets of people and equipment (combat power) ready to fight upon arrival or shortly thereafter will require multiple forms of sea and air lift arriving at multiple air and sea ports with minimal infrastructure in place. Aircraft deliver pieces and people, ships deliver units. What we need are troops and equipment arriving together. Any operational or supporting capability should not be transported unless and until it is needed. The concept of the operation (RDO?) will drive deployment planning far more than ever before. The emphasis must be on deploying capabilities when they are needed and not before, versus just shipping men and equipment. We must avoid our historical tendency to overload our receiving points at the other end. The RSOI process must be eliminated, done at home station, or condensed down to a few hours at most.

A recent review commissioned by the Secretary Of Defense finds that the U.S. military of the future needs to have a Joint Rapid Response Force capable of deploying around the globe within 24 hours to execute RDO. This is not a new force, but rather a reorganization of existing multiservice forces based on capabilities that would increase lethality and force projection speed. The goal of the Joint Rapid Response Force would be to rapidly project U.S. power to

gain control of an area within four days and bring the conflict to a decisive end within a month. To accomplish this would require a revolution in how we organize, train, equip, and exercise our current forces. The force structure would be capabilities based because the demands on the initial deploying force will be far different than that of later deploying forces. This force must be capable of conducting opposed vertical and horizontal entry independent of established airfields and ports. 62 The force must be capable of more than just simultaneous airborne, air assault and amphibious operations. It must have the capability to conduct either or all three against the enemy's center of gravity in a rapid decisive operation. Ideally, it would be an air, land, and sea force that is stationed in close proximity to each other and regularly trains and exercises together. There is a need to start from a zero base by first defining the desired capability, then building a force or forces to provide that capability and then lastly you can label it. Call it the Marine Corps, contingency corps, JTF, IBCT, or what ever. Build it first, then label it. This would require a major rethink of service roles and responsibilities that focuses on overall capabilities. America needs such a joint force capable of forced entry, and follow on forces capable of conducting full dimensional decisive combat operations against all opponents anywhere in the world.

Despite statements to the contrary there has been a blurring of Army and Marine Corps roles in recent years. Since the end of the cold war the Army has shifted from its primary emphasis on conducting sustained land combat operations to one of being all things to all people. The Army has lost its focus in its efforts to maintain full spectrum dominance. The Marine Corps has done a better job of maintaining its focus as it has shifted over the years from an amphibious based force to an expeditionary based force. There is no pretense in the Marine Corps of being all things to all people. The time has come to sharpen and expand the focus of the Marine Corps. Expand their focus by giving them increased vertical forced entry capability (airborne, air assault & airland), and sharpen their focus by making them the central element of the joint rapid deployment force. Perhaps our national security strategy would be better served if the IBCT were a Marine unit. The Marine focus would be purely on forced and unassisted entry while the Army focus would be on assisted entry and counterattack forces that would decisively conclude the conflict. The Marines kick the door down and the Army takes down the building!

#### **CONCLUSIONS**

The United States is a power projection nation. Power projection is the cornerstone of its military preeminence. Today's national security environment demands a transformation of U.S. power projection. We will never have sufficient lift to move today's Army to meet tomorrow's crisis. Technology is an enabler, not a solution. There is no one solution, but by peeling the onion back one layer at a time we can clarify the problem and identify solutions. Credible rapid force projection is deterrence in itself.

Our current military strategy of forward presence and power projection is on track, but we still have a long way to go to make it achievable. The CSA has defined the end for us, a brigade in 96 hours, division in 120 hours, five divisions in 30 days, and the means to achieve that is through aggressively implementing the Army transformation plan which the recent attack on America has given impetus to. Some of the ways are with us now, Initial Brigade Combat Teams (IBCTs), precision munitions, In transit visibility, and in some cases the ways are still to be developed, i.e. technological breakthroughs in fast sea lift and heavy air lift, armor protection, fuel reduction efforts, and other force lightening measures.

The future of force projection is still evolving. The impact of Army transformation is just now starting to be incorporated into force projection. It remains to be seen if all the CSA's deployment objectives are achievable. The long pole in the tent is a division in 5 days which to be achievable will require a continued reliance on forward presence and a technological breakthru in high speed sealift and ultra heavy airlift.

Word Count = 6.727

# **ENDNOTES**

- <sup>1</sup> Department of Defense, <u>Joint Vision 2020</u> (Washington D.C.: U.S. Government Printing Office, June 2000), 6.
- <sup>2</sup> Donald H. Rumsfeld, <u>Quadrennial Defense Review Report</u>, (Washington, D.C.: The Pentagon, September 2001), 20.
- <sup>3</sup> William J. Clinton, <u>A National Security Strategy For A Global Age</u> (Washington, D.C.: The White House, December 2000), 16-19.
- <sup>4</sup> Department of the Army, <u>Reception, Staging, Onward Movement, and Integration, FM 100-17-3 (Washington D.C.: U.S. Department of the Army, 17 March 1999), 1-1.</u>
- <sup>5</sup> John M. Shalikashvili, <u>National Military Strategy of the United States of America Shape</u>, <u>Respond, Prepare Now: A Military Strategy for a New Era</u> (Washington, D.C.: Joint Chiefs of Staff, 1997), 5.
  - <sup>6</sup> Ibid., 3.
  - <sup>7</sup> Ibid., 20.
- <sup>8</sup> Dennis Steele, "The Army Magazine Hooah Guide to Army Transformation," <u>Army</u>, February 2001, 30. This phrase is often attributed to Confederate General Nathan Bedford Forrest.
  - <sup>9</sup> Shalikashvili, 10.
- <sup>10</sup> Williamson Murray, <u>Army Transformation: A View From the U.S. Army College</u> (Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, July 2001), 1.
  - <sup>11</sup> Reception, Staging, Onward Movement, and Integration, 1-2.
- <sup>12</sup> Eric K. Shinseki, General, Chief of Staff, Army, "The Army Vision: Soldiers on Point for the Nation . . . Persuasive in Peace, Invincible in War," October 1999; available from <a href="http://www.army.mil/armyvision/chain.htm/">http://www.army.mil/armyvision/chain.htm/</a>; Internet; accessed 4 October 2001.
  - <sup>13</sup> Reception, Staging, Onward Movement, and Integration, 3-3.
  - <sup>14</sup> Ibid, 1-2.
- Department of Defense, Mobility Requirements Study 2005, "MRS-05 Executive Summary," November 2000; available from <a href="http://www.dtic.mil/jcs/j4/projects/mobility/mobility.html/">http://www.dtic.mil/jcs/j4/projects/mobility/mobility.html/</a>; Internet; accessed 4 October 2001.
  - <sup>16</sup> Rumsfeld, 8.
- <sup>17</sup> Rebecca H. Caprano et al., <u>Army Strategic Responsiveness Quick Look Study (#50)</u> (McLean, VA: Logistics Management Institute, May 2001), 1-2.

- 18 Ibid.
- <sup>19</sup> Charles W. Fletcher, Jr. BG, "Strategic Responsiveness Study A Holistic View (Study #50)," briefing slides, Pentagon, G4 Directorate of Force Projection and Distribution, no date.
  - <sup>20</sup> Ibid.
  - <sup>21</sup> Caprano, 4-10.
  - <sup>22</sup> Ibid., 4-17.
  - <sup>23</sup> Ibid., 4-3.
  - <sup>24</sup> Ibid., 4-15.
- <sup>25</sup> Department of the Army, <u>Army Pre-Positioned Land</u>, FM 100-17-2 (Washington D.C.: U.S. Department of the Army, 16 February 1999), 1-3.
- <sup>26</sup> "Transportation Command's Chief Emphasizes The Need For More C-17 Cargo Planes," <u>St. Louis Post-Dispatch</u>, 2 February 2002, sec 1A, p. 9.
  - <sup>27</sup> Ibid.
  - <sup>28</sup> Caprano, 4-5.
- <sup>29</sup> Department of the Air Force, "C-5 Galaxy Fact Sheet," no date; available from <a href="http://www.af.mil/news/factsheets/C">http://www.af.mil/news/factsheets/C</a> 5 Galaxy.html>; Internet; accessed 8 February 2002.
  - 30 Rumsfeld, 8.
- <sup>31</sup> Art Lichte, MG, "The Mobility Requirements Study for FY 2005 (MRS-05)," briefing slides, Air Mobility Command, Directorate, Plans and Programs, no date.
- <sup>32</sup> Department of the Air Force, "C-141B Starlifter Fact Sheet," no date; available from <a href="http://www.af.mil/news/factsheets/C\_141B\_Starlifter.html">http://www.af.mil/news/factsheets/C\_141B\_Starlifter.html</a>; Internet; accessed 8 February 2002.
- <sup>33</sup> Department of the Air Force, "KC-10A Extender Fact Sheet," no date; available from <a href="http://www.af.mil/news/factsheets/KC\_10A\_Extender.html">http://www.af.mil/news/factsheets/KC\_10A\_Extender.html</a>; Internet; accessed 8 February 2002.
- <sup>34</sup> Department of Defense, "Mobility Requirements Study 2005," November 2000; Available at <<u>http://www.dtic.mil/jcs/j4/projects/mobility/mobility.html</u>/>; Internet accessed 4 October 2001, Ch 3.
  - <sup>35</sup> Scott R. Gourly, "Forward in position to Respond," <u>Sea Power</u>, May 1999, 48.
  - <sup>36</sup> "Mobility Requirements Study 2005, Executive Summary."

- <sup>40</sup> Derek Povah, Dr. "What Do You Know About APS-3?," <u>Army Logistician</u>, July-August 2000, 8.
- <sup>41</sup> "Prepo Division Information Brief," briefing slides, Pentagon, G4 Directorate of Force Projection and Distribution, available at <a href="http://www.hqda.army.mil/logweb/directorates/trets-force%20projection/Prepositioning/Prepositioning\_Information.htm">http://www.hqda.army.mil/logweb/directorates/trets-force%20projection/Prepositioning/Prepositioning\_Information.htm</a>, no date.
- <sup>42</sup> Frank B. Randall, Jr. "A Revolution in Power Projection: Ready, Set, Go!," <u>Military Review</u> January/February 2001, 22.
  - <sup>43</sup> David S. Huff, "Situation Report: The MPF Ships," <u>Sea Power</u>, Nov 2001.
- <sup>44</sup> John M. Curatola, and Robert Bovey, Jr. "The Future Maritime Prepositioning Force," Proceedings, November 2001, 87-88.
  - <sup>45</sup> Randall, 21.
  - <sup>46</sup> Steele, 23.
- <sup>47</sup> Department of the Army, "Transformation Campaign Plan," (Washington, D.C.: U.S. Department of the Army, 10 April 2001), 1&4.
- <sup>48</sup> Conrad C. Crane, ed., <u>Transforming Defense</u> (Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, December 2001), 96.
- <sup>49</sup> David Jablonsky, "Army Transformation: A Tale of Two Doctrines," in <u>Transforming Defense</u>, ed. Conrad C. Crane (Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, December 2001), 54; quoted in Hunter Keeter, "Commandant Seeks Inter-Service Discussion Over Expeditionary Roles, Missions," <u>Defense Daily</u>, 31 October 2000, Vol. 208, Issue 21, 1.

<sup>&</sup>lt;sup>37</sup> "Mobility Requirements Study – 2005," Ch 3.

<sup>&</sup>lt;sup>38</sup> Ibid., Ch 5.

<sup>&</sup>lt;sup>39</sup> Kim Richards, "Army Prepositioned Stocks (APS) –3/Army Prepositioning Afloat (APA)," Information Paper, Pentagon, G4 Directorate of Force Projection and Distribution, 5 November 2001

<sup>&</sup>lt;sup>50</sup> Ibid., 71.

<sup>&</sup>lt;sup>51</sup> Joint Vision 2020, 1.

<sup>&</sup>lt;sup>52</sup> Jablonsky, 54.

<sup>&</sup>lt;sup>53</sup> Department of the Army, <u>Operations</u>, FM 3-0 (Washington D.C.: U.S. Department of the Army, June 2001), 3-13.

<sup>&</sup>lt;sup>54</sup> Ibid., 3-16 &17.

- <sup>55</sup> Ibid., 3-17.
- <sup>56</sup> Jeffery J. Becker, "Rapid Decisive Operations As a Joint Operational Concept," <u>Army,</u> February 2002, 50.
  - <sup>57</sup> Ibid, 52.
  - <sup>58</sup> Jablonsky, <u>Transforming Defense</u>, 46-47.
- <sup>59</sup> Huba Wass de Czege, Brigadier General (Ret) and Jacob D. Biever, Major, "Power Projection," <u>Army</u>, April 2001, 11-12.
  - <sup>60</sup> Ibid. 13.
  - <sup>61</sup> "Joint Rapid Response Forces in DOD's Future?" <u>Air Force Magazine</u>, August 2001, 22.
  - <sup>62</sup> Wass de Czege, 13.

#### **BIBLIOGRAPHY**

- Becker, Jeffery J. "Rapid decisive Operations As a Joint Operational Concept." <u>Army</u> February 2002, 49-57.
- Caprano, Rebecca H., William S. Crowder, Laurence A. Glicoes, Michael D. McManus, Nicholas J. Rudman, John O. Sawyer, and James A Weiss. <u>Army Strategic Responsiveness Quick Look Study (#50)</u>. McLean, VA: Logistics Management Institute, May 2001.
- Clinton, William J. <u>A National Security Strategy For A Global Age</u>. Washington, D.C.: The White House, December 2000.
- Crane, Conrad C. ed. <u>Transforming Defense</u>. Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, December 2001.
- Curatola, John M. and Robert Bovey, Jr. "The Future Maritime Prepositioning Force." <u>Proceedings</u>, November 2001, 87-89.
- Fletcher, Charles W. Jr. Brigadier General. "Strategic Responsiveness Study A Holistic View (Study #50)." Briefing slides. Pentagon: G4 Directorate of Force Projection and Distribution, no date.
- Gourly, Scott R. "Forward in Position to Respond." Sea Power, May 1999, 45-48.
- Huff, David S. "Situation Report: The MPF Ships." Sea Power, November 2001.
- "Joint Rapid Response Forces in DOD's Future?." Air Force Magazine, August 2001, 22.
- Lichte, Art. "The Mobility requirements Study for FY 2005 (MRS-05)." Briefing slides. Air Mobility Command: Directorate, Plans and Programs, no date.
- Murray, Williamson. <u>Army Transformation: A View From the U.S. Army College</u>. Carlisle Barracks: Strategic Studies Institute, U.S. Army War College, July 2001.
- Povah, Derek. "What Do You Know About APS-3?." Army Logistician July-August 2000, 8-14.
- "Prepo Division Information Brief." Briefing slides. Pentagon: G4 Directorate of Force
  Projection and Distribution, no date. Available from
  <a href="http://www.hqda.army.mil/logweb/directorates/trets-force%20projection/Prepositioning/Prepositioning\_Information.htm">http://www.hqda.army.mil/logweb/directorates/trets-force%20projection/Prepositioning/Prepositioning\_Information.htm</a>. Internet. Accessed 4 October 2001.
- Randall, Frank B. Jr. "A Revolution in Power Projection: Ready, Set, Go!." Military Review January/February 2001, 20-25.
- Richards, Kim. "Army Prepositioned Stocks (APS) –3/Army Prepositioning Afloat (APA)." Information Paper. Pentagon, G4 Directorate of Force Projection and Distribution, 5 November 2001.
- Rumsfeld, Donald H. Quadrennial Defense Review Report. Washington, D.C.: The Pentagon, September 2001.

- <u>Selected Readings, Course 1, Strategic Leadership.</u> Vol I. Carlisle Barracks, Pennsylvania: U.S. Army War College, 10 July 2001.
- Shalikashvili, John M. "Shape, Respond, Prepare Now: A Military Strategy for a new Era."

  National Military Strategy of the United States of America. Washington, D.C.: Joint Chiefs of Staff, 1997.
- Shinseki, Eric K. General, Chief of Staff, Army. "The Army Vision: Soldiers on Point for the Nation . . . Persuasive in Peace, Invincible in War." Linked from The Army Homepage. Available from <a href="http://www.army.mil/armyvision/chain.htm/">http://www.army.mil/armyvision/chain.htm/</a>>. Internet. Accessed 4 Oct 2001.
- Steele, Dennis. "The Army Magazine Hooah Guide to Army Transformation." <u>Army</u>, February 2001, 21-42.
- "Transportation Command's Chief Emphasizes The Need For More C-17 Cargo Planes." <u>St. Louis Post-Dispatch</u>, 2 February 2002, sec 1A, p. 9.
- U.S. Department of Defense, Joint Chiefs of Staff, J4. "Mobility Requirements Study –2005." Available from <a href="http://www.dtic.mil/jcs/j4/projects/mobility/mobility.html/">http://www.dtic.mil/jcs/j4/projects/mobility/mobility.html/</a>. Internet. Accessed 4 Oct 2001.
- U.S. Department of Defense. <u>Joint Vision 2020</u> Washington, D.C.: U.S. Government Printing Office, June 2000.
- U.S. Department of the Air Force. "C-141B Starlifter Fact Sheet." No date. Available from <a href="http://www.af.mil/news/factsheets/C">http://www.af.mil/news/factsheets/C</a> 141B Starlifter.html>. Internet. Accessed 8 February 2002.
- U.S. Department of the Air Force. "C-5 Galaxy Fact Sheet." No date. Available from <a href="http://www.af.mil/news/factsheets/C\_5">http://www.af.mil/news/factsheets/C\_5</a> Galaxy.html>. Internet. Accessed 8 February 2002.
- U.S. Department of the Air Force. "KC-10A Extender Fact Sheet." No date. Available from <a href="http://www.af.mil/news/factsheets/KC\_10A\_Extender.html">http://www.af.mil/news/factsheets/KC\_10A\_Extender.html</a>. Internet. Accessed 8 February 2002.
- U.S. Department of the Army. "Transformation Campaign Plan." Washington, D.C.: U.S. Department of the Army, 10 April 2001.
- U.S. Department of the Army. <u>Army Prepositioned Land</u>. Field Manual 100-17-2. Washington, D.C.: U.S. Department of the Army, 16 February 1999.
- U.S. Department of the Army. <u>Operations</u>. Field Manual 3-0. Washington, D.C.: U.S. Department of the Army, 14 June 2001.
- U.S. Department of the Army. <u>Reception, Staging, Onward Movement, and Integration</u>. Field Manual 100-17-3. Washington, D.C.: U.S. Department of the Army, 17 March 1999.
- Wass de Czege, Huba Brigadier General (Ret) and Jacob D. Biever, Major. "Power Projection." Army, April 2001, 11-14.